



**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# **ACM1552U-ZW**

## **WalletMate II Mini**

User Manual V1.00





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## 1.0. Introduction

Continuing the success of the ACR1252U-MW and ACM1252U-Z2, the ACM1552U-ZW is a CCID & PC/SC compliant reader module. It is an NFC reader that can access various contactless smart cards following the ISO 14443 Type A & B, ISO 15693, and ISO 18092 NFC standards. It features three NFC modes, namely Card Reader/Writer, Card Emulation and Keyboard Emulation, making it a powerful all-in-one device that is cost-effective and flexible for many smart card applications.

### 1.1. Apple VAS and Google Smart Tap Certified

ACM1552U-ZW has earned certification from Apple and Google VAS protocols, enabling it to support virtual passes such as loyalty cards, tickets, and staff/student ID cards across both iOS and Android platforms. This ensures a smooth, cardless user experience. With the application of the VAS protocol, a simple tap-to-go experience is facilitated, allowing the terminal to select specific wallet passes using a merchant-specific ID.



### 1.2. Compact Design

The WalletMate II Mini's compact design ensures it fits perfectly into small devices. This small-sized module is ideal for integration into a wide variety of applications, including handheld devices and kiosks, without sacrificing their functionality or user experience.

### 1.3. Firmware Upgradeable Feature

To save valuable cost and time, the firmware of ACM1552U-ZW could conveniently be upgraded in-field to allow users to cope with the fast-changing technology for their applications in order to suit different scenarios.

### 1.4. Multi-Platform Support

ACM1552U-ZW is a PC/SC and CCID-compliant reader. With driver support on different platforms, ACM1552U-ZW can operate in Windows®, Linux®, macOS and Android™ operating systems.



## 2.0. Features

- Mini Mobile Wallet NFC Module
- USB 2.0 Full Speed Interface
- Apple VAS and Google Smart Tap Certified
- Plug and Play – CCID support brings utmost mobility<sup>1</sup>
- USB Firmware Upgradeability<sup>2</sup>
- Contactless Smart Card Reader:
  - Supports ISO 14443 Type A and B cards
  - Supports ISO 15693 cards
  - Supports ISO 18092 NFC
  - Supports MIFARE® (T=CL), FeliCa, NFC Tags
  - Supports SRI/SRIX, CTS, Innovatron, Picopass, Topaz Card
  - Built-in antenna for contactless tag access, with a reading distance of up to 70 mm (depending on tag type)
  - Built-in anti-collision feature (only one tag is accessed at any time)
  - NFC Support:
    - Card reader/writer mode
    - Card emulation mode
    - Keyboard emulation mode
- Application Programming Interface:
  - Supports PC/SC<sup>3</sup>
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Windows®, Linux®, macOS, and Android™ operating systems.
- Built-in Peripherals:
  - One user-controllable bi-color LED
- Compliant with the following certifications and standards:
  - Apple VAS
  - Google Smart Tap
  - CE
  - FCC
  - RoHS
  - REACH
  - WEEE
  - VCCI
  - Microsoft® WHQL

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<sup>1</sup> *Applicable under PC-linked mode*

<sup>2</sup> *Same as above*

<sup>3</sup> *Same as above*



- ISO 14443
- ISO 15693
- ISO 18092
- PC/SC
- CCID



### **3.0. Typical Applications**

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Transportation
- Network Security
- Access Control
- Loyalty Program
- Smart Poster/URL Marketing



## 4.0. Driver installation Procedure

The installation procedure is the same for ACS PC/SC Driver version 1.0.4.0 and above. The latest device drivers of the ACS Smart Card Readers may be downloaded from the ACS Driver Download Webpage:

<http://acs.com.hk/en/drivers/>

To install the ACS Driver:

1. In the **ACS PC/SC Driver** folder, run the file **Setup.exe**.
2. Choose the language, and then click **OK**.

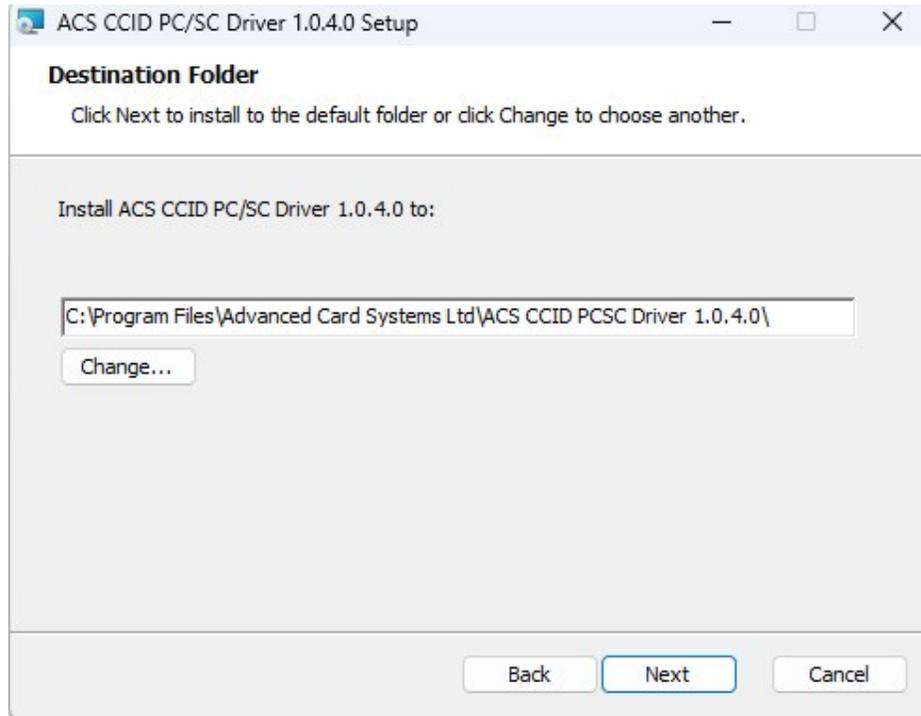


3. The Setup Wizard will be displayed. Click **Next** to proceed with the installation.

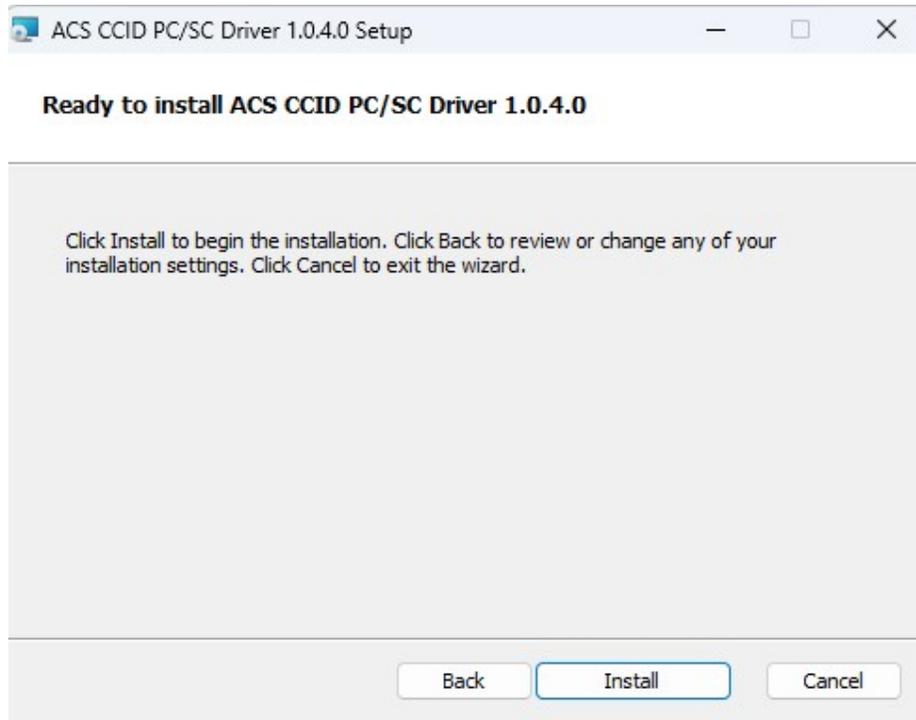




- Click **Next** to install the driver to the default folder located at **C:\Program Files\Advanced Card Systems Ltd\ACS PCSC Driver 1.0.4.0\**, with **C** as the drive letter of your local drive. Otherwise, click **Change** to choose another destination folder.

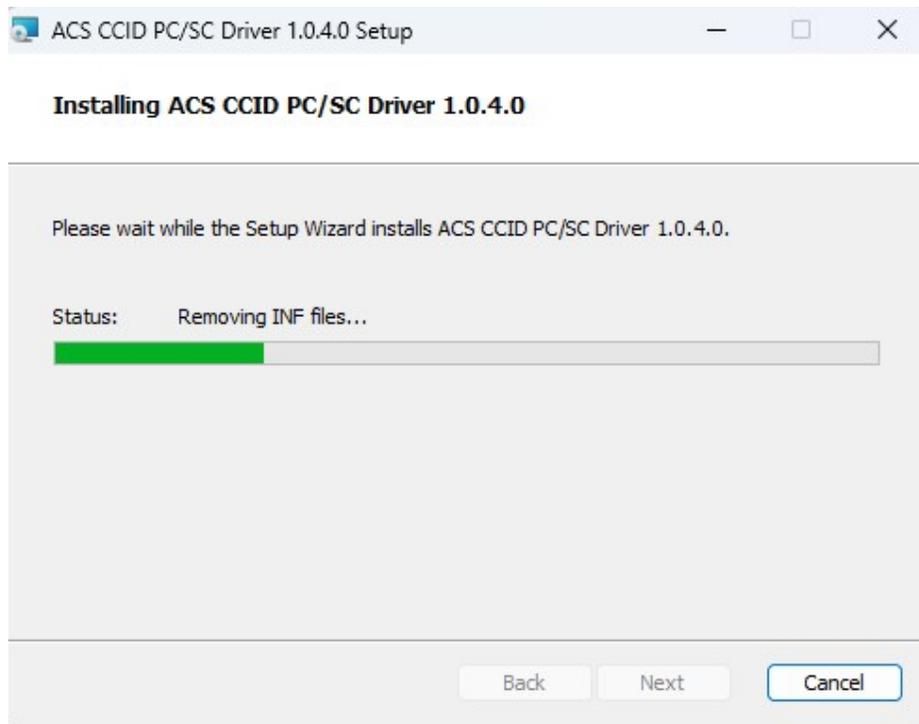


- Click **Install** to begin the installation.





6. Wait for the installation process to finish.



7. Once the driver installation is finished, click **Finish** to exit the setup wizard.





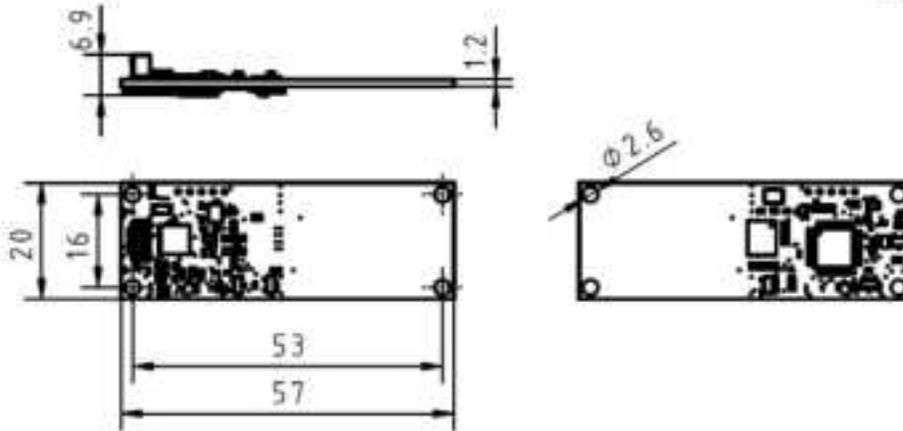
## 5.0. Technical Specifications

### TECHNICAL SPECIFICATION

Contactless Smart Card Interface		Peripheral	
Supported Card Types	ISO 14443 Type A & B Parts 1-4, ISO 15693, ISO 18092 NFC, MIFARE®, FelCa, SR0/SRIX, CT3, Innovation, Picopass, Topaz Card	LED	1 x Programmable LED (Blue & Green)
Operating Frequency	13.56 MHz	<b>Operating Condition</b>	
Reading Distance	Up to 30 mm (Depending on tag type)	Temperature	0 - 60°C
Read/Write Speed	106/212/424/848 kbps (ISO14443) 29kbps (ISO15693)	Humidity	Max. 90% (Non-condensing)
Anti-Collision	Yes	MTBF	500,000 Hours
Supported NFC Mode	NFC Reader/Writer, Keyboard Emulation, Card Emulation,	<b>Certification &amp; Compliances</b>	
<b>Host Interface</b>		Certifications	Apple VAS, Google Smart Tap, IEC/EN 62368, CE, FCC, VCCI, RoHS, REACH, WEEE, Microsoft® WHQL
Protocol	USB CCID	Compliances	USB CCID, PC/SC
Connector Type	Spin, IST 5H series compatible	<b>Libraries &amp; Tools</b>	
Speed	USB 2.0 Full Speed (12 Mbps) compatible with USB3.0	Libraries	Apple VAS API, Google Smart Tap API, CT-API
Supply Voltage	5VDC	Tools	ACS VAS Test Tools with API Software Development Kit
Current Consumption	Max. 200mA	<b>Drivers &amp; Support</b>	
USB Firmware Upgrade	Supported	Driver Supported OS	Windows®, Linux®, macOS, Android™
<b>Physical Characteristics</b>		Warranty	1 Year
Dimension (L x W x H)	57 x 20 x 6.9 mm	<b>Model/Part Number</b>	
Weight (±1g)	3.9g	Default	ACM1552U-ZW

### MECHANICAL SPECIFICATION

Unit: mm



macOS is registered trademarks of Apple Inc., registered in the U.S. and other countries.  
Windows® is a trademark of Microsoft Corporation in the United States and/or other countries.  
Android™ is trademarks of Google LLC.  
Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.



**FCC Caution:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTE:**

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.